Transmitted herewith is a copy of the "Sequence Listing" (sheets 1/20 through 20/20) in paper form for the above-identified patent application as required by 37 C.F.R. §1.821(c) and a copy of the "Sequence Listing" in computer readable form as required by 37 C.F.R. §1.821(e). As required by 37 C.F.R. §1.821(f), Applicant's Attorney hereby states that the content of the "Sequence Listing" in paper form and the computer readable form of the "Sequence Listing" are the same and, as required by 37 C.F.R. §1.821(g), also states that the submission includes no new matter.

Applicant's Attorney submits the following amendments to comply with 37 C.F.R. §1.825 and to correct an obvious misnumbering of certain sequences. No new matter has been added.

In the Specification

Please replace the paragraphs at page 11, lines 12 through 28 continuing to page 13, lines 1 through 19 with the following paragraph:

Further, the ten amino acid residue "core" (the 10-mer which is flanked at each end by a cysteine residue) of the 12 amino acid residue peptide, as well as portions, modifications and variants of the 10-mers are also useful to inhibit membrane fusion and entry of HIV into cells. Variants, portions and modifications of these peptides are also useful as inhibitors. As described further herein, D-peptides which comprise a consensus sequence (e.g., WXWL (SEQ ID NO: 23), EWXWL (SEQ ID NO: 24), CXXXXXEWXWLC (SEQ ID NO: 63) or a portion thereof) have been shown to bind the N-helix coiled-coil and are useful to inhibit membrane fusion and entry of HIV into cells. The enantiomeric peptides (D-peptides) do not serve as efficient substrates for enzymes, such as proteases and, therefore, are more resistant to proteolytic degradation than are L-peptides; they are also less immunogenic than are L-peptides.

Specific embodiments of D-peptides of the present invention are:

(a) CDLKAKEWFWLC (SEQ ID NO: 3);

(b) CEARHREWAWLC (SEQ ID NO: 4);

(c) CELLGWEWAWLC (SEQ ID NO: 5);

(d) CLLRAPEWGWLC (SEQ ID NO: 6);

(e) CSRSQPEWEWLC (SEQ ID NO: 7);

(f) CGLGQEEWFWLC (SEQ ID NO: 8);

(g) CMRGEWEWSWLC (SEQ ID NO: 9);

(h) CPPLNKEWAWLC (SEQ ID NO: 10);

(i) CVLKAKEWFWLC (SEQ ID NO: 11);

(j) KKGACGLGQEEWFWLC (SEQ ID NO: 15);

(k) KKGACELLGWEWAWLC (SEQ ID NO: 16);

(l) KKKKGACELLGWEWAWLC (SEQ ID NO: 17);

(m) KKGACMRGEWEWSWLC (SEQ ID NO: 18);

(n) KKGACPPLNKEWAWLC (SEQ ID NO: 19);

(o) a D-peptide comprising WXWL (SEQ ID NO: 23);

(p) a D-peptide comprising EWXWL (SEQ ID NO: 24);

(q) a D-peptide comprising CXXXXXEWXWL (SEQ ID NO: 12)

(r) ac-GACEARHREWAWLCAA-am (SEQ ID NO: 34);

(r) ac-KKGACEARHREWAWLCAA-am (SEQ ID NO: 38);

(t) ac-KKKKGACEARHREWAWLCAA-am (SEQ ID NO: 43);

(u) ac-GACGLGQEEWFWLCAA-am (SEQ ID NO: 44);

(v) ac-KKGACGLGQEEWFWLCAA-am (SEQ ID NO: 64);

(w) ac-KKKKGACGLGQEEWFWLCAA-am (SEQ ID NO: 45)

(x) ac-GACDLKAKEWFWLCAA-am (SEQ ID NO: 35);

(y) ac-KKGACDLKAKEWFWLCAA-am (SEQ ID NO: 39);

(z) ac-KKKKGACDLKAKEWFWLCAA-am (SEQ ID NO: 46);

(a′) ac-GACELLGWEWAWLCC-am (SEQ ID NO: 47);

(b′) ac-KKGACELLGWEWAWLCAA-am (SEQ ID NO: 65);

(c′) ac-KKKKGACELLGWEWAWLCAA-am (SEQ ID NO: 66);

(d′) ac-GACSRSQPEWEWLCAA-am (SEQ ID NO: 36);

(e′) ac-KKGACSRSQPEWEWLCAA-am (SEQ ID NO: 40);

(f′) ac-KKKKGACSRSQPEWEWLCAA-am (SEQ ID NO: 48);

(g′) ac-GACLLRAPEWGWLCAA-am (SEQ ID NO: 37);

(h′) ac-KKGACLLRAPEWGWLCAA-am (SEQ ID NO: 41);

(i′) ac-KKKKGACLLRAPEWGWLCAA-am (SEQ ID NO: 49);

(j′) ac-GACMRGEWEWSWLCAA-am (SEQ ID NO: 50);

(k′) ac-KKGACMRGEWEWSWLCAA-am (SEQ ID NO: 67);

(l′) ac-KKKKGACMRGEWEWSWLCAA-am (SEQ ID NO: 51);

(m′) ac-GACPPLNKEWAWLCAA-am (SEQ ID NO: 52);

(n′) ac-KKGACPPLNKEWAWLCAA-am (SEQ ID NO: 68);

(o′) ac-KKKKGACPPLNKEWAWLCAA-am (SEQ ID NO: 53);

(p′) ac-GACXXXXXEWXWLCAA-am (SEQ ID NO: 54);

(q′) ac-KKGACXXXXXEWXWLCAA-am (SEQ ID NO: 55);

(r′) ac-KKKKGACXXXXXEWXWLCAA-am (SEQ ID NO: 56);

(s′) ac-XXCXXXXXEWXWLCXX-am (SEQ ID NO: 57);

(t′) ac-KKXXCXXXXXEWXWLCXX-am (SEQ ID NO: 58);

(u′) ac-KKKKXXCXXXXXEWXWLCXX-am (SEQ ID NO: 59);

(v′) ac-XXCXXXXXEWXWLCXXX-am (SEQ ID NO: 60);

(w′) ac-KKXXCXXXXXEWXWLCXXX-am (SEQ ID NO: 61);

(x′) ac-KKKKXXCXXXXXEWXWLCXXX-am (SEQ ID NO: 62); and

(y′) a variant of a sequence of (a) through (x′), wherein the variant binds the N-helix coiled-coil cavity of HIV gp41, wherein ac- at the C-terminus and -am at the N-terminus are optional.

Replace the paragraphs at page 57, lines 21 through 28 continuing to page 58, lines 1 through 3 with the following paragraphs.

The sequences of the D-peptides are as follows (with all amino acids in the D-enantiomer, using the exact mirror image of naturally occurring amino acid residues for Ile and Thr, which contain a second chiral center):

D10pep1: Ac-GACEARHREWAWLCAA-$CONH_2$ (SEQ ID NO: 34);

D10pep3: Ac-KKGACGLGQEEWFWLCAA-$CONH_2$ (SEQ ID NO: 64);

A2 D10pep4: Ac-GACDLKAKEWFWLCAA-$CONH_2$ (SEQ ID NO: 35);

D10pep5: Ac-KKGACELLGWEWAWLCAA-$CONH_2$ (SEQ ID NO: 65);

D10pep6: Ac-GACSRSQPEWEWLCAA-$CONH_2$ (SEQ ID NO: 36);

D10pep7: Ac-GACLLRAPEWGWLCAA-$CONH_2$ (SEQ ID NO: 37);

D10pep10: Ac-KKGACMRGEWEWSWLCAA-$CONH_2$ (SEQ ID NO: 67); and

D10pep12: Ac-KKGACPPLNKEWAWLCAA-$CONH_2$ (SEQ ID NO: 68).

Replace the paragraphs at page 58, lines 25 through 28 continuing to page 59, lines 1 through 4 with the following paragraph.

D-peptides that had additional D-Lys residues added to the N-termini, that were synthesized for study are indicated with the addition of "a" to the peptide name and include the following:

A3 D10pep1a: Ac-KKGACEARHREWAWLCAA-$CONH_2$ (SEQ ID NO: 38);

D10pep4a: Ac-KKGACDLKAKEWFWLCAA-$CONH_2$ (SEQ ID NO: 39);

D10pep5a: Ac-KKKKGACELLGWEWAWLCAA-$CONH_2$ (SEQ ID NO: 66);

D10pep6a: Ac-KKGACSRSQPEWEWLCAA-$CONH_2$ (SEQ ID NO: 40); and

D10pep7a: Ac-KKGACLLRAPEWGWLCAA-$CONH_2$ (SEQ ID NO: 41).